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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,471	02/06/2006	Bernd Schultheis	VO-745	9396
43419 7590 01/29/2009 PAULEY PETERSEN & ERICKSON 2800 WEST HIGGINS ROAD SUITE 365 HOFFMAN ESTATES, IL 60195				
EXAMINER				
MARINI, MATTHEW G				
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/567,471

Applicant(s)

SCHULTHEIS ET AL.

Examiner

MATTHEW G. MARINI

Art Unit

2854

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) 23 and 49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 29-33, 35-43, 45-48 and 50-54 is/are rejected.
- 7) ☐ Claim(s) 8-22, 24-28, 34 and 44 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-848)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election of Claims 1-22, 24-48, and 50-54 in the reply filed on 11/06/08 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Claims 23 and 49 have been withdrawn.

Information Disclosure Statement

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Claim Objections

Claims 13-28, 38-42, 44, 45 and 52 are objected to because of the following informalities:

It appears that in claim 13, the claim should be dependent off claim 12, therefore for the sake of prosecution, the examiner has assumed the above dependency based on the general trend of dependency seen in the claims;

It appears that in claim 38, "the conveying device" should read --a conveying device-- for correct antecedent basis;

It appears that in claim 39, "the guidance device" should read --a guidance device-- for correct antecedent basis;

It appears that in claim 40, "the guidance arrangement" should read --a guidance arrangement-- for correct antecedent basis;

It appears that in claim 41, "the conveying circuit" should read --a conveying circuit-- for correct antecedent basis;

It appears that in claims 42, 44, 45, "the cleaning device" should read --a cleaning device-- for correct antecedent basis; and

It appears that in claim 52, "the temperature sensor" should read --a temperature sensor-- for correct antecedent basis.

Appropriate correction and/or clarification is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 29, 30, 32, 33, 35, 36, 45-48, 50, and 54 are rejected under 35 U.S.C. 102(b) as being anticipated by Thompson et al. (5,640,659).

With respect to claim 1, Thompson teaches in Fig. 1 a printing device the printing device comprising: the transport system for the said substrate, indirectly taught for transporting the substrate to the transfer zone between rollers 28 and 32, having a receiving device, 32, which can be heated via heating element, 34, to which the heating element, 34, for introducing heat energy into the substrate are assigned, and a cooling device, 36, is assigned to the transfer medium of said printing unit, which is capable of removing heat energy from the transfer medium.

The examiner would like to also point out that the limitations recited in the preamble have not been given patentable, for example the language directed towards, toner powder, and electro-photographic printing unit. These limitations are not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

With respect to claim 2, Thompson teaches in Fig. 1 a printing device wherein each said heating element is arranged on a side of the substrate facing away (below) from the nip portion of the receiving device, 32, of the transport system.

With respect to claims 3 and 29, Thompson teaches in Fig. 1 a printing device wherein the substrate is fixed in place supported at least partially on the receiving device, 32, in the up and down direction perpendicular to the feed direction of the substrate.

With respect to claims 4 and 30, Thompson teaches in Fig. 1 a printing device wherein receiving device, 32, has an approximately frame-shaped receiving structure for supporting the respective substrate. Insofar as how the term "frame" is structurally defined in the claim, the examiner has interpreted the word according to the Webster dictionary definition of : *something composed of parts fitted together and united.* Hence, the roller, 32, and the heating element in the roller are parts fitted together and united.

With respect to claims 32 and 33, Thompson teaches in Fig. 1 a printing device wherein the transport system, indirectly taught, conducts a plurality of the substrates arranged one behind the other continuously through the transfer zones of the printing units, as it is well known in the printing art.

With respect to claim 35, Thompson teaches in Fig. 1 a printing device downstream of the last printing unit of the printing units arranged one behind the other in the transport direction (A) of the receiving, the substrate can be removed from the respective receiving device, 32, so as to deliver that sheet after printing.

With respect to claim 36, Thompson teaches in Fig. 1 a printing device wherein following removal from the receiving device the substrate is capable of being transferred to a transfer unit or a sorting unit. The examiner would like to point out that the transfer

unit or sorting unit is not part of the claimed combination of a printer, and has been interpreted as intended use and/or functional language.

With respect to claim 45, Thompson teaches in Fig. 1 a printing device wherein the transfer medium is a transfer roller, 26, and contains, insofar as how the transfer roller contains the cooling device, 36.

With respect to claim 46, Thompson teaches in Fig. 1 a printing device wherein the transfer medium of the printing unit has a lower temperature in the transfer zone formed with the substrate at least in an area of the contact surface, than a surface of the substrate due to the cooling characteristics of the cooling device 36 and heating operation of the 34.

With respect to claim 47, Thompson teaches in Fig. 1 a printing device wherein the substrate rests on a conductive support of the receiving device, 32, and the support is charged with a reversed polarity sign compared with the charge of the toner, Col. 3 lines 61-65 and Col. 4 lines 35-38.

With respect to claim 48, Thompson et al. teaches all the claimed structure directed towards the claimed combination of the printing device of claim 1, including wherein the substrate (14.1, ..., 14.5, 14.6) is moved by the transport system beyond the transfer medium synchronously with a circumferential speed of the transfer medium, so as to print an image of the substrate without smearing. However, the language

directed towards a voltage is not part of the claimed combination, and has been interpreted as intended use and/or functional language.

With respect to claim 50, Thompson teaches in Fig. 1 a printing device wherein each said substrate can be charged with heat energy by a metal foil heating device, via the lamp, Col. 3 lines 61-65, and is capable of having a wavelength of heat radiation can be exactly matched to an absorption maximum of at least one of the substrate and a plastic matrix of the toner.

With respect to claim 54, Thompson teaches in Fig. 1 a printing device wherein the cooling device, 36, removes heat energy from the transfer medium, 26, downstream of the transfer zone and upstream of the photo-conductor, 20, of the printing unit viewed in the transport direction of the transfer medium.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-7, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. (5,640,659) in view of Mitani (5,216,466).

With respect to claims 5 and 31, Thompson et al. teaches all that is claimed in the above rejection of claim 4, except a plurality of printing units are arranged one behind the other for imprinting each said substrate in a different color.

Mitani teaches in similar printing structure as seen in Thompson, as well as a plurality of printing units, 20, arranged one behind the other for imprinting each said substrate in a different color, in Fig. 8.

It would have been obvious to one of ordinary skill in the art at the time of invention to include the multiple printing units of Mitani to the printing device of Thompson et al. because it would allow the printer of Thompson to be more marketable by printing in color.

With respect to claims 6 and 7, Thompson teaches in Fig. 1 a printing device wherein the transport system, indirectly taught, conducts a plurality of the substrates arranged one behind the other continuously through the transfer zones of the printing units, as well known in the printing art.

Claims 37-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. (5,640,659) in view of Sugimoto et al. (4,802,439).

With respect to claim 37, Thompson teaches all that is claimed in the above rejection of claim 1, except a printing device wherein the transport system has a conveying device, spring 53, which transports the receiving device, roller, 40, along a guidance arrangement, plate 60b, wherein the conveying device, 53, has a conveying

element, 55, and the guidance device can be arranged on guide elements on a closed track.

Sugimoto et al. teaches in Figs. 4 and 5, a printing device wherein the transport system has a conveying device, which transports the receiving device along a guidance arrangement, wherein the conveying device has a conveying element, and the guidance device can be arranged on guide elements on a closed track using plate 60.

It would have been obvious to one of ordinary skill in the art at the time of invention to include the elements taught by Sugimoto et al. because these element allow the roller, 40, which is similar to the roller taught by Thompson, to move in an up and down motion adjusting the pressure therebetween.

Claims 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. (5,640,659) in view of Waterschoot (6,539,197).

With respect to claim 41, Thompson teaches all that is claimed in the above rejection of claim 1, except a printing device wherein a cleaning device for the receiving device is arranged at a conveying circuit.

Waterschoot teaches in Fig. 1 a cleaning device, 1, for a receiving device, 5, similar to the receiving device of taught by Thompson et al., being arranged at a conveying circuit of ink and web like material.

It would have been obvious to one of ordinary skill in the art at the time on invention to include the cleaning device of Waterschoot to the printing device taught by Thompson et al. because the cleaning device of Waterschoot to clean off ink and debris, improving print quality and durability, Col. 2 lines 24-27.

With respect to claim 42, Thompson teaches all that is claimed in the above rejection of claim 1, wherein a cleaning device is arranged following the last printing unit of the printing units arranged one behind the other in the conveying direction of the receiving device and the receiving device can be introduced into the cleaning device following the removal of the substrate.

Waterschoot teaches in Fig. 1 a cleaning device, 1, arranged following the last printing unit, 132, of the printing units when individually looking at the printing units arranged one behind the other in the conveying direction of the receiving device, 5, similar to the receiving device of taught by Thompson et al. and the receiving device can be introduced into the cleaning device following the removal of the substrate so to clean the receiving unit.

It would have been obvious to one of ordinary skill in the art at the time on invention to include the cleaning device of Waterschoot to the printing device taught by Thompson et al. because the cleaning device of Waterschoot to clean off ink and debris, improving print quality and durability of the device, Col. 2 lines 24-27.

With respect to claim 43, Thompson teaches all that is claimed in the above rejection of claim 1, wherein a cleaning device is arranged upstream the first printing unit of the printing units arranged one behind the other in the conveying direction of the receiving device.

Waterschoot teaches in Fig. 1 a cleaning device, 1, arranged upstream the first printing unit, 132, (in reference to the rotation of the receiving unit, 5) of the printing

units when individually looking at the printing units arranged one behind the other in the conveying direction of the receiving device, 5, similar to the receiving device of taught by Thompson et al. and the receiving device can be introduced into the cleaning device following the removal of the substrate so to clean the receiving unit.

It would have been obvious to one of ordinary skill in the art at the time on invention to include the cleaning device of Waterschoot to the printing device taught by Thompson et al. because the cleaning device of Waterschoot to clean off ink and debris, improving print quality and durability of the device, Col. 2 lines 24-27.

Claims 51 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. (5,640,659) in view of Diamond et al. (3,817,103).

With respect to claims 51 and 52, Thompson teaches all that is claimed in the above rejection of claim 1, however remains silent regarding a printing device wherein a pyrometer temperature sensor is assigned to the substrate, at least one of the heating element and the transport system can be controlled by a control device as a function of a signal emitted by the temperature sensor.

Diamond et al. teaches using a pyrometer temperature sensor, Col. 3 lines 54-56, is assigned to the substrate, at least one of the heating element and the transport system capable of being controlled by a control device as a function of a signal emitted by the temperature sensor.

It would have be obvious to one of ordinary skill in the art at the time of invention to modify Thompson et al. to include a temperature sensor taught by Diamond et al.

because it would allow the printer to modify the temperature of the substrate so as to not allow the temperature of the substrate to reach dangerous levels.

Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. (5,640,659) in view of Watannabe (6,397,030).

With respect to claim 53, Thompson et al. teaches all that is claimed in the above rejection of claim 1, including a conditioned air flow from the cooling device, 36, directed onto a surface of the transfer medium, 26, but remains silent regarding at least one liquid-cooling contact roller being included in the cooling device that makes contact with the transfer medium.

However, Watannabe teaches in Fig. 22, roller 206a being water cooled. It would have been obvious to one of ordinary skill in the art at the time of invention to include roller, 206a, of Watannabe to the cooling device of Thompson et al. because it would further aid in the cooling of the transfer medium, having a beneficial effect in the overall printing operation of Thompson et al.

Allowable Subject Matter

Claims 8-22, 24-28, 34 and 44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art does not teach or render obvious the claimed combination, in particular a printing device, including upstream of the first printing unit of the printing

units arranged one behind the other in the transport direction of the receiving device, the substrate can be received in a separate receiving device, and can be sequentially conducted to the printing units before printing on those loaded substrates.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW G. MARINI whose telephone number is (571)272-2676. The examiner can normally be reached on Monday-Friday 8:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571)-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2854

If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Matthew Marini

1/15/09

/Leslie J. Evanisko/

Primary Examiner, Art Unit 2854